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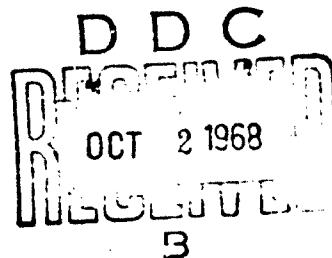
TRANSLATION NO. 3168

DATE: 10 April 1968

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## DOWNTY MILDEW OF SUNFLOWER

196/1966/61/ved  
Pages 192-193, V.25, 1964  
Trudy vses. Inst. Zashch. Rast.

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This year the outbreak of downy mildew of sunflower (*Plasmopara helianthi* Novot) was somewhat milder in Northern Caucasus, but more severe in the Ukraine, Moldavia, and the Voronezh oblast than in 1963 (see Table 1).

Table 1  
Affection of Sunflower by Downy Mildew  
(in percentages)

Республика, край область	1963 г.	1964 г.	Республика, край область	1963 г.	1964 г.
1			1		
2 Краснодарский край	1,0-70,0	0,2-47,0	6 Кабардино-Балкар- ская АССР . . .	3,0-96,0	1,0-54,0
3 Ставропольский край	0,5-90,0	1,0-50,0	7 Ростовская обл. . .	0,3-5,0	0,1-7,5
4 Чечено-Ингушская АССР . . . . .	2,0-70,0	1,0-15,0	8 Воронежская обл. . .	0,5	0,4-20,0
5 Северо-Осетинская АССР . . . . .	5,0-80,0	2,0-90,0	9 Украинская ССР . .	0,1-5,0	Е.1-19,0
			10 Молдавская ССР . .	0,1-4,0	0,3-10,0

Legend: 1. republic, kray, oblast  
2. Krasnodar kray  
3. Stavropol' kray  
4. Checheno-Ingushkaya ASSR  
5. Severo-Osetinskaya ASSR  
6. Kabardino-Balkarskaya ASSR  
7. Rostov oblast  
8. Voronezh oblast  
9. Ukraine SSR  
10. Moldavian SSR

The area affected by the disease continued to expand; new foci of infection appeared. Thus, the parasitic fungus was first recorded in Zaparozh'ye oblast; the number of diseased plants increased to 7% and even 12%. Single diseased plants were also discovered in Khar'kov, Dniepropetrovsk and Kuibyshev oblasts.

The number of affected sunflower plants in Moldavian SSR increased mainly on farms in the Northern zone (15-28%); in the southern area their number was insignificant (0.5%). Of the 13,010 hectares investigated, 7,066 hectares were infected.

Almost all rayons in Rostov oblast were infected with downy mildew. In Voronezh oblast the disease was first discovered in 1962, and then it affected only one farm. It has now spread to 34 farms in nine rayons covering an area of 4,620 hectares.

Downy mildew continued to inflict considerable loss to the sunflower crop in Northern Caucasus, particularly in the foothill rayons of Stavropol' Kray (to 50%) and in Severo-Osetinskiy ASSR (to 90%). Failure to rotate crops and weather conditions favorable to disease development were contributing factors. Out of 68,100 hectares investigated, 27,100 hectares were infected. In Krasnodar Kray the disease was found in 10 rayons over an area of 22,525 hectares.

The disease incidence was reduced in Kabardino-Balkarskaya ASSR and Checheno-Ingushskaya ASSR; however, on separate sections as many as 50% of the plants were affected by the disease. The infected area in Checheno-Ingushskaya ASSR was considerably reduced (4,714 hectares as compared with 12,741 hectares in 1963) as a result of crop distribution based on their most successful previous experience.\*

Despite the relatively moderate disease development in new areas, outbreaks in former foci of infection and the appearance of such foci in new areas are possible in the future. Farms affected by downy mildew must undertake agrotechnical measures aimed at eliminating the

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\*Data regarding the affected areas in RSFSR in the years of 1963 and 1964 are cited in an article by N. Nikulina in the Journal Zashchita Rasteniy ot Vreditelей i Bolezney (Protection of Plants from Pests and Diseases), No. 8, 1965.

the infectious principle. Sunflowers should not be re-planted on such sections until seven to eight years after the mildew was noted. Infected plant parts (roots, stems) should be removed and control of self-seeding, the main source of infection, must be conducted.